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# MEMORANDUM

DATE: June 10, 2015

TO: Eric Nuchims, Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-4 Chemist, E & E, Seattle, Washington MW

SUBJ: **Organic Data Quality Assurance Review, John Day Vapor Response Site, John Day, Oregon**

REF: TDD: 15-05-0005 PAN: 1004530.0004.111.02

The data quality assurance review of 1 air cartridge samples collected from the John Day Vapor Response site in John Day, Oregon, has been completed. Naphtha compound analysis (NIOSH Method 5506) was performed by TestAmerica, Inc., Phoenix, Arizona. All sample analyses were evaluated following EPA's Stage 2B and/or 4 Data Validation Electronic and/or Manual Process (S2B/4VE/M).

The sample was numbered: 15053018

**Data Qualifications:**

1. **Sample Holding Times: Acceptable.**

The sample was collected on May 26, 2015, and was analyzed by June 2, 2015. The method indicates that sample stability is unknown.

2. **Initial Calibration: Acceptable.**

All correlation coefficients were greater than 0.990.

3. **Continuing Calibration: Satisfactory.**

All % differences were less than 40% except pyrene (low recovery), benzo(k)fluoranthene and benzo(a)pyrene (high recoveries) in the June 2 (0946) ICV and naphthalene, acenaphthene, and fluorene (high recoveries) in the June 2 (1758) ICV. Positive sample results associated with the high recovery outliers were qualified as estimated quantities with a high bias (JH). The sample quantitation limit associated with the low recovery outlier was qualified as an estimated quantity with a low bias (UJL).

4. **Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any blank.

**5. Blank Spike (BS)/BS Duplicate (BSD) Analysis: Acceptable.**

BS and BSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**6. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**7. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**8. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**9. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

JH - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a high bias.

JL - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with a low bias.

JK - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias.

JQ – The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample with an unknown direction of bias and falls between the MDL and the Minimum (or Practical) Quantitation Limit (MQL, PQL).

N - The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification".

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

FORM I
IH - HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Phoenix | Job No.: 550-45491-1

SDG No.:

Client Sample ID: 15053018 | Lab Sample ID: 550-45491-1

Matrix: Air | Lab File ID: 0602A011.D

Analysis Method: 5506 (Modified) | Date Collected: 05/26/2015 00:00

Extraction Method: Filter Prep | Date Extracted: 06/02/2015 08:30

Sample wt/vol: 1(Sample) | Date Analyzed: 06/02/2015 16:16

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Supelcosil PAH ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 64803 | Units: ug/Sample

| CAS NO. | COMPOUND NAME | RESULT | Q | RL |
|---|---|---|---|---|
| 83-32-9 | Acenaphthene | <2.00 | | 2.00 |
| 208-96-8 | Acenaphthylene | <2.50 | | 2.50 |
| 120-12-7 | Anthracene | <0.250 | | 0.250 |
| 86-73-7 | Fluorene | <0.500 | | 0.500 |
| 91-20-3 | Naphthalene | <1.00 | | 1.00 |
| 85-01-8 | Phenanthrene | <0.250 | | 0.250 |

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Injection Volume: 20(uL) | GC Column: ID:

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 64803 | Units: ug/Sample

| CAS NO. | COMPOUND NAME | RESULT | Q | RL |
|---|---|---|---|---|
| 56-55-3 | Benzo[a]anthracene | <0.250 | U | 0.250 |
| 205-99-2 | Benzo[b]fluoranthene | <0.500 | | 0.500 |
| 50-32-8 | Benzo[a]pyrene | <0.250 | | 0.250 |
| 191-24-2 | Benzo[g,h,i]perylene | <0.500 | | 0.500 |
| 207-08-9 | Benzo[k]fluoranthene | <0.250 | | 0.250 |
| 218-01-9 | Chrysene | <0.250 | | 0.250 |
| 53-70-3 | Dibenz(a,h)anthracene | <0.500 | | 0.500 |
| 206-44-0 | Fluoranthene | <0.500 | | 0.500 |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | <0.250 | | 0.250 |
| 129-00-0 | Pyrene | <0.250 | U JL | 0.250 |



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Lab Name: TestAmerica Phoenix | Job No.: 550-45491-1

SDG No.:

Client Sample ID: 15053018 | Lab Sample ID: 550-45491-1

Matrix: Air | Lab File ID: 0602A012.D

Analysis Method: 5506 Back | Date Collected: 05/26/2015 00:00

Extraction Method: Tube prep/Back | Date Extracted: 06/02/2015 08:30

Sample wt/vol: 1(Sample) | Date Analyzed: 06/02/2015 16:50

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Supelcosil PAH ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 64803 | Units: ug/Sample

| CAS NO. | COMPOUND NAME | RESULT | Q | RL |
|---|---|---|---|---|
| 83-32-9 | Acenaphthene | <2.00 | U | 2.00 |
| 208-96-8 | Acenaphthylene | <2.50 | | 2.50 |
| 120-12-7 | Anthracene | <0.250 | | 0.250 |
| 86-73-7 | Fluorene | <0.500 | | 0.500 |
| 91-20-3 | Naphthalene | <1.00 | | 1.00 |
| 85-01-8 | Phenanthrene | <0.250 | | 0.250 |



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Matrix: Air | Lab File ID: 0602A012.D

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Extraction Method: Tube prep/Back | Date Extracted: 06/02/2015 08:30

Sample wt/vol: 1(Sample) | Date Analyzed: 06/02/2015 16:50

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: ID:

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 64803 | Units: ug/Sample

| CAS NO. | COMPOUND NAME | RESULT | Q | RL |
|---|---|---|---|---|
| 56-55-3 | Benzo[a]anthracene | <0.250 | U | 0.250 |
| 205-99-2 | Benzo[b]fluoranthene | <0.500 | | 0.500 |
| 50-32-8 | Benzo[a]pyrene | <0.250 | | 0.250 |
| 191-24-2 | Benzo[g,h,i]perylene | <0.500 | | 0.500 |
| 207-08-9 | Benzo[k]fluoranthene | <0.250 | | 0.250 |
| 218-01-9 | Chrysene | <0.250 | | 0.250 |
| 53-70-3 | Dibenz(a,h)anthracene | <0.500 | | 0.500 |
| 206-44-0 | Fluoranthene | <0.500 | | 0.500 |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | <0.250 | | 0.250 |
| 129-00-0 | Pyrene | <0.250 | U | 0.250 |

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Lab Name: TestAmerica Phoenix | Job No.: 550-45491-1

SDG No.:

Client Sample ID: 15053018 | Lab Sample ID: 550-45491-1

Matrix: Air | Lab File ID: 0602A013.D

Analysis Method: 5506 Front | Date Collected: 05/26/2015 00:00

Extraction Method: Tube prep/Front | Date Extracted: 06/02/2015 08:30

Sample wt/vol: 1(Sample) | Date Analyzed: 06/02/2015 17:24

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Supelcosil PAH ID: 4.6(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 64803 | Units: ug/Sample

| CAS NO. | COMPOUND NAME | RESULT | Q | RL |
|---|---|---|---|---|
| 83-32-9 | Acenaphthene | <2.00 | U | 2.00 |
| 208-96-8 | Acenaphthylene | <2.50 | U | 2.50 |
| 120-12-7 | Anthracene | <0.250 | U | 0.250 |
| 86-73-7 | Fluorene | <0.500 | U | 0.500 |
| 91-20-3 | Naphthalene | <1.00 | U | 1.00 |
| 85-01-8 | Phenanthrene | <0.250 | U | 0.250 |

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Lab Name: TestAmerica Phoenix | Job No.: 550-45491-1

SDG No.:

Client Sample ID: 15053018 | Lab Sample ID: 550-45491-1

Matrix: Air | Lab File ID: 0602A013.D

Analysis Method: 5506 Front | Date Collected: 05/26/2015 00:00

Extraction Method: Tube prep/Front | Date Extracted: 06/02/2015 08:30

Sample wt/vol: 1(Sample) | Date Analyzed: 06/02/2015 17:24

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: ID:

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 64803 | Units: ug/Sample

| CAS NO. | COMPOUND NAME | RESULT | Q | RL |
|---|---|---|---|---|
| 56-55-3 | Benzo[a]anthracene | <0.250 | | 0.250 |
| 205-99-2 | Benzo[b]fluoranthene | <0.500 | | 0.500 |
| 50-32-8 | Benzo[a]pyrene | <0.250 | | 0.250 |
| 191-24-2 | Benzo[g,h,i]perylene | <0.500 | | 0.500 |
| 207-08-9 | Benzo[k]fluoranthene | <0.250 | | 0.250 |
| 218-01-9 | Chrysene | <0.250 | | 0.250 |
| 53-70-3 | Dibenz(a,h)anthracene | <0.500 | | 0.500 |
| 206-44-0 | Fluoranthene | <0.500 | | 0.500 |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | <0.250 | | 0.250 |
| 129-00-0 | Pyrene | <0.250 | | 0.250 |

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FORM I
IH - HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Phoenix | Job No.: 550-45491-1

SDG No.:

Client Sample ID: 15053018 | Lab Sample ID: 550-45491-1

Matrix: Air | Lab File ID:

Analysis Method: 5506 Sum | Date Collected: 05/26/2015 00:00

Extraction Method: Tube prep/Back | Date Extracted: 06/02/2015 08:30

Sample wt/vol: 1(Sample) | Date Analyzed: 06/03/2015 11:37

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: | GC Column: ID:

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 64943 | Units: ug/Sample

| CAS NO. | COMPOUND NAME | RESULT | Q | RL |
|---|---|---|---|---|
| 83-32-9 | Acenaphthene | <2.00 | U | 2.00 |
| 208-96-8 | Acenaphthylene | <2.50 | | 2.50 |
| 120-12-7 | Anthracene | <0.250 | | 0.250 |
| 56-55-3 | Benzo[a]anthracene | <0.250 | | 0.250 |
| 205-99-2 | Benzo[b]fluoranthene | <0.500 | | 0.500 |
| 50-32-8 | Benzo[a]pyrene | <0.250 | | 0.250 |
| 191-24-2 | Benzo[g,h,i]perylene | <0.500 | | 0.500 |
| 207-08-9 | Benzo[k]fluoranthene | <0.250 | | 0.250 |
| 218-01-9 | Chrysene | <0.250 | | 0.250 |
| 53-70-3 | Dibenz(a,h)anthracene | <0.500 | | 0.500 |
| 206-44-0 | Fluoranthene | <0.500 | | 0.500 |
| 86-73-7 | Fluorene | <0.500 | | 0.500 |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | <0.250 | | 0.250 |
| 91-20-3 | Naphthalene | <1.00 | | 1.00 |
| 85-01-8 | Phenanthrene | <0.250 | | 0.250 |
| 129-00-0 | Pyrene | <0.250 | VJL | 0.250 |



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